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ABSTRACT

A study sought to determine to what degree educators are cognizant of principles of learning as applied to the students they teach. Examined were the relationships among: (1) the criterion variable of educators' perception of the degree that their students learn according to selected learning principles and (2) the predictor variables of work role, years of teaching experience, highest degree attained, sex, and type of school district where employed. The sample consisted of 123 teachers and administrators with a mean of 13.3 years of teaching/administration experience. A questionnaire was mailed to each subject to collect demographic information as well as to obtain the educator's reactions to 20 statements concerning the extent to which their students learn according to selected principles of learning. A significant independent relationship was found to exist between the criterion variable and the predictor variables of work role and sex. No significant independent relationship was found to exist between the criterion variable and the predictor variables of teaching experience, highest degree attained, and type of school district where employed. It is concluded that educators are highly cognizant of principles of learning as applied to the students they teach. (Author/CJ)

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Educators' Perception of the Degree That Their Students Learn According to Selected Principles of Learning

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Running head: Educators' Perception

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Abstract

The present study examined the relationship between the criterion variable of educators' perception of the degree that their students learn according to selected principles of learning and the predictor variables of work role, years of teaching experience, highest degree attained, sex, and type of school district where employed. The sample consisted of 123 teachers and administrators with a mean years of teaching/administration experience of 13.3 years. A questionnaire was mailed to each subject to collect demographic data as well as obtain the educators' perception concerning 20 statements that their students learn according to selected principles of learning. The mean score for the 20 items for the sample was 85.6 (with a possible high of 100). A significant independent relationship was found to exist between the criterion variable and the predictor variables of (a) work role, and (b) sex ($p < .05$). No significant independent relationship was found to exist between the criterion variable of (a) years of teaching experience, (b) highest degree attained, and (c) type of school district where employed. It is concluded that educators are highly cognizant of principles of learning as applied to the students they teach.

Educators' Perception of the Degree That Their Students Learn According to Selected Principles of Learning

Teachers must have strong grounding in theories and techniques of learning in order to explore the ways knowledge can be communicated to students. The mere possession of technical teaching skills is not enough. The teacher must understand that theoretical knowledge facilitates the ability to interpret and predict behavioral phenomena. Because of this, a good understanding of learning theory is an essential skill for every classroom teacher.

Teacher education institutions provide prospective teachers with content, methodology, and philosophy for teaching. However, as teaching is the means to the end goal of learning, one questions whether the sight of the goal is lost in the emphasis that is placed on the means. The present study sought to determine to what degree educators are cognizant of principles of learning as applied to the students they teach.

A review of the literature provided examples of principles of learning (Dehaven, 1979, pp. 456-457; Lock, 1981, pp. 7-8; Ragan & Shepherd, 1977, pp. 74-76). However, there was no evidence in the literature that educators are well-grounded in principles of learning.

The studies concerning teachers' perception of learning described in the literature do not purport to measure the degree that teachers are cognizant of how learning occurs, but, rather, which approach or model of learning teachers more closely identify with (Campbell, 1971; Harrison & Scriven, 1970; Silverman & Pool, 1978; Van Cleaf, 1979). These studies first make the assumption that teachers have an adequate understanding of principles of learning--a finding that was not evident in the literature. In addition, studies that categorize teachers' perception of learning into a dichotomous scale based on the two major models of learning (cognitive vs. behaviorist) have limited relevance in offering guidance to curriculum planners of teacher education institutions as teachers may well subcribe to an eclectic theoretical approach to learning.

The purpose of the present study was to examine the relationship between the criterion variable of educators' perception of the degree that their students learn according to selected principles of learning and the predictor variables of work role, years of teaching experience, highest degree attained, sex, and type of school district where employed. The ultimate goal of this study was to determine whether educators are cognizant of the process of learning as it relates to the students they teach for the purpose of disseminating

this information to curriculum planners of teacher education institutions.

Method

Subjects

A random selection of 250 teachers and administrators employed in public schools within the state of Mississippi was made from a 1981-1982 list compiled by the Mississippi State Department of Education. Of the 250 subjects chosen for this study, 123 (49.2%) participated in the study by responding to the questionnaire.

The sample consisted of 96 females and 26 males whose mean years of teaching/administration experience was 13.3 years. The specialist's degree (or one year's study above the master's degree) was indicated as the highest degree attained by 11 respondents. The master's degree was indicated by 53 respondents, and the bachelor's degree was indicated by 58 respondents.

The sample consisted of 14 special subjects teachers (reading, music, art, vocational, industrial arts, physical education), 20 special education/gifted education teachers, 15 teachers of grade level 10 to 12, 19 teachers of grade level 7 to 9, 24 teachers of grade level 4 to 6, 25 teachers of

grade level K to 3, and 5 school administrators. Consolidated school district was indicated as the type of school district where employed by 10 respondents. Municipal school district was indicated by 51 respondents, and county school district was indicated by 61 respondents. (Note: As one respondent provided no demographic information, subgroups within each category will number 122.)

Instrumentation

A questionnaire was designed by the researcher to collect data for the study. In order to establish validity for the instrument, six other individuals participated in the design of the instrument. From the literature, 45 principles of learning were selected by the researcher. These principles were submitted to four professors of education who rated each item on a Likert-type scale from 1 (lowest) to 5 (highest). The 30 principles of learning that had the highest mean rating were then rated by two psychologists with a background in learning. The psychologists rated the items on a Likert-type scale from 1 (lowest) to 5 (highest). The 20 principles of learning with the highest mean rating were selected for the questionnaire. All items selected for the questionnaire had a combined mean rating (professors' and psychologists') of no

less than 4 on a 1 (low) to 5 (high) scale. A pilot study was conducted using the instrument, and appropriate changes were made in the questionnaire to clarify the meaning and intent of the items.

Procedure

Questionnaires were mailed to each of the selected subjects with a letter of explanation and an addressed, stamped envelope for return. Each subject was asked for information concerning work role (teaching assignment), years of teaching experience, highest degree attained, sex, and type of school district where employed. In addition, subjects were asked for their perception (opinion) concerning 20 statements that their students learn according to the selected principles of learning. They were asked to score these statements on a Likert-type scale indicating the extent to which they agreed or disagreed with the statements presented relative to their students' learning according to selected principles of learning.

Results

When all 20 statements were rated, there was a possible low score of 20 and a possible high score of 100. (Midpoint equals 60.) The mean score of the 20 items (educators' per-

ception of the degree that their students learn according to selected principles of learning) for the sample was 85.6 with a standard deviation of 6.4. As this mean score was well above the midpoint of 60, it was interpreted to indicate that the educators' perception of the degree that their students learn according to selected principles of learning was high. In addition, all subgroups in each category scored means that were well above the midpoint. The subgroup having the highest mean score was school administrators with a mean of 91.4. The subgroup having the lowest mean score was special subjects teachers with a mean of 81.6.

Table 1 presents the means and standard deviations for each of the 20 items that comprised the criterion variable, educators' perception of the degree that their students learn according to selected principles of learning. The respondents rated each item on a Likert-type scale of 1 (lowest) to 5 (highest). Insert Table 1 about here

For the tests of significance, data were subjected to multiple linear regression analysis. A significant relationship was found to exist between the criterion variable of educators' perception of the degree that their students learn according to selected principles of learning and the composite set of predictor variables of work role, years of teaching

experience, highest degree attained, sex, and type of school district where employed, F (12, 110) = 2.25, $p < .02$. A significant independent relationship was found to exist between the criterion variable and the predictor variable of work role, F (6, 110) = 3.10, $p < .01$. Also, a significant independent relationship was found to exist between the criterion variable and the predictor variable of sex, F (1, 110) = 3.85, $p < .05$. No significant independent relationship was found to exist between the criterion variable and the predictor variables of (a) years of teaching experience, (b) highest degree attained, and (c) type of school district where employed, respectively.

The relationship between the criterion variable and the predictor variables was weak with the predictor variables accounting for only 19.7% of the total variance (R^2 = .197). This value is reduced to 17.9% when the interaction effects of the predictor variables (1.8%) has been partialed out. This leaves 80.3% of the original variance unexplained.

Discussion

The researcher concludes that educators are highly cognizant of principles of learning as applied to the students they teach. This finding does not concur with that of Desforges (1981, p. 1)

who concluded that "educators are largely ignorant of what children know and their ways of coming to know, especially as these operate in real time conditions such as classrooms." Apparently, teacher education institutions have been successful in teaching principles of learning as well as methodology and materials for teaching.

Inasmuch as 42% of the respondents did not agree that "the most important source of my students' learning is their own acts and thinking," the researcher concludes that a large portion of educators in the population believe that students learn by reaction to forces outside themselves in a passive manner, rather than be active producers of their own learning. This belief does not concur with the research findings reported by Hart (1981, p. 39):

> One of the outcomes of modern brain research is the concept of "brain-compatible instruction." The old view of the brain as a blank tablet has been demolished. We now have scientific evidence to support what many wise teachers have known intuitively all along: we cannot really teach people; we can merely provide input for their learning under favorable conditions.

It would seem that the emphasis placed on methodology and materials by teacher education institutions has led a large

portion of educators to believe that these are the most important aspects of the learning process, rather than the learner himself/herself.

The variables of years of teaching experience, highest degree attained, and type of school district where employed are not accountable for differences in perception which are found to exist among educators concerning the degree that their students learn according to selected principles of learning. It would seem that more formal education and/or more teaching experience does not contribute to the educators' understanding of principles of learning. This may be partially explained by the fact that no course in advanced educational psychology is presently required for an advanced degree in the state from which this sample was drawn.

The statistically significant differences found to exist in educators' perception of the degree that their students learn according to selected principles of learning are due to the sex of the respondent and his or her work role (teaching position) in the school. These differences due to work role are likely due to the differing teacher preparation programs that are required for certification for the various positions.

Inasmuch as this study measured only the belief system of educators, a planned future study is one that will measure

the degree that educators implement the principles of learning found to be valid in the present study. An understanding of these principles is useless unless it is put into practice in the classroom. A study of this nature is a logical sequence to the present study which had as its purpose determining whether educators were, first, cognizant of the process of learning, a finding that was not evident in the literature.

TABLE 1

Means and Standard Deviations for the Questionnaire Items

Item Number	Mean	S.D.
7. My students' learning is more efficient when it has meaning and the students understand what they are doing.	4.73	.44
6. Learning is individual; therefore, when my students participate in a common learning experience, they will probably not all develop the same concepts or degree of skill.	4.54	.56
5. An important learning activity for my students is meaningful review, repetition, and drill of facts.	4.50	.62
17. Use of a variety of meaningful experiences and instructional materials enhances my students' learning.	4.50	.59
16. My students learn best by active participation in the learning experience.	4.47	.63
8. Motivation affects my students' learning.	4.46	.79
19. Learning is enhanced when my students use a combination of senses such as hearing and sight.	4.41	.57
2. Learning is enhanced when my students are kept informed of their performance.	4.37	.64
9. The activities in which my students engage in classrooms take on unity and meaning when those activities are closely related to purposes that are real to the students.	4.37	.55
3. My students' learning occurs gradually in a step-by-step manner.	4.34	.68

TABLE 1 (Continued)

Means and Standard Deviations for the Questionnaire Items

Item Number		Mean	S.D.
12.	Individual differences among my students attribute to the uniqueness of rate of learning for each student.	4.31	.69
4.	My students' responses learned in one situaltion may enhance new learnings.	4.24	.63
14.	Learning tasks should be adjusted to my students' level of maturity.	4.20	.69
20.	New material should be related to previously learned material for my students.	4.17	.97
1.	My students' learning is more efficient when distributed over several periods rather than when covered in one long period.	4.16	.98
13.	My students learn more than one thing in a given situation.	4.15	.84
15.	My students learn best in a non-threatening atmosphere.	4.10	.83
18.	An optimum learning situation is one in which my students participate in a series of activities of increasing levels of complexity.	4.06	.68
11.	My students learned for several years before they entered school, and they continue to learn outside of school.	4.05	.98
10.	The most important source of my students' learning is their own acts and thinking.	3.46	1.01

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